

CLAIMS

1. A tire/wheel assembly comprising a tire, a wheel on which the tire is mounted, and a cavity portion defined by the tire and the wheel, wherein a tire-information transmitter is provided at a position spaced from both of the wheel and the tire in the cavity portion.
2. The tire/wheel assembly according to claim 1, wherein a ring-shaped elastic body equipped with said tire-information transmitter is provided along the periphery of a rim base of a rim of said wheel.
3. The tire/wheel assembly according to claim 2, wherein said ring-shaped elastic body is a rubber band.
4. The tire/wheel assembly according to claim 2, wherein said ring-shaped elastic body is a rubber ring.
5. The tire/wheel assembly according to claim 1, wherein a flexible tube equipped with said tire-information transmitter is provided along the inner surface of the crown portion of said tire.
6. The tire/wheel assembly according to claim 1, wherein a narrow hanger equipped with said tire-information transmitter is sandwiched and held between a bead portion of said tire and a rim of said wheel.
7. The tire/wheel assembly according to claim 1, wherein said wheel comprises a detachable bead seat ring contacting a bead portion to form a seat face, and a narrow hanger equipped with said tire-information transmitter is fixed on the bead seat ring.
8. The tire/wheel assembly according to any one of claims 1 to 7, wherein said tire-information transmitter is a transponder.
9. The tire/wheel assembly according to any one of claims 1 to 8, wherein an inner pressure sensor is built in the tire-information transmitter.
10. The tire/wheel assembly according to any one of claims 1 to 9, wherein a temperature sensor is built in the tire-information transmitter.
11. An installation device comprising a base portion to be contacted by a gutter of a wheel, said wheel comprising a rim having a detachable flange on one side and being in a state that the detachable flange has been removed, and a guide portion having an outer surface provided with a guide means, said guide means being forcedly displaced while slantly contacting a ring-shaped elastic body

equipped with a tire-information transmitter to drop the elastic body on an outer periphery of a rim base of the wheel, wherein said base and guide portions make an L-shape and said installation device moves along the gutter.

12. The installation device according to claim 11, wherein said guide means is a stepped sidewall slantly extending across the outer surface of the guide portion.

13. The installation device according to claim 11 or 12, wherein a portion of the outer surface of the guide portion with which said elastic body makes contact during its movement is so configured that its height at the outer surface gradually decreases along the direction in which the elastic body is dropped.

14. The installation device according to any one of claims 11- 13, wherein each of the base portion and the guide portion is provided with at least one rolling element at a surface to be contacted by the rim base.

15. The installation device according to claim 14, wherein the rolling element provided at the contact surface of the guide portion is so configured as to be able to move along a groove formed over a whole circumference.

16. The installation device according to any one of claims 11 to 15, further comprising an insert portion to be inserted from the gutter side into the inner surface side of the rim base of the wheel in a state where the detachable flange has been removed, the insert portion having an inner surface facing the inner surface of the guide portion with a given distance therebetween, wherein the insert portion, the base portion and the guide portion altogether form a hook-like shape.

17. The installation device according to claim 16, wherein the insert portion is hinge-connected with the base portion.

18. The installation device according to claim 16 or 17, wherein the insert portion is provided with at least one rolling element at a surface to be contacted by the rim base.

19. A fixing device comprising a base portion to be contacted by a gutter of a wheel, said wheel comprising a rim having a detachable flange on one side and being in a state that the detachable flange has been removed, a support portion extending from one end of the base portion and having a shape matched with an inner shape of the gutter, and a hold portion extending from the other end of the

base portion and holding a mount provided on a ring-shaped elastic body equipped with a tire-information transmitter, wherein the base portion, the support portion and the hold portion altogether form a hook-like shape to be detachably fixed on the rim.

20. The fixing device according to claim 19, wherein at least the support portion is made of a spring steel and the support portion, together with the base portion and/or the hold portion, is configured to clip the rim.

21. The fixing device according to claim 19 or 20, wherein the hold portion comprises a body portion extending along the outer surface of the rim base, and a clip portion branching and extending from the body portion, the clip portion being made of a spring steel, wherein the fixing device is so configured that the body and clip portions altogether clip the mount provided on the ring-shaped elastic body equipped with the tire-information transmitter.

22. The fixing device according to any one of claims 19 to 21, wherein the length of the hold portion is approximately the same as the distance from the gutter to the position at which the tire-information transmitter is fixed as measured along the outer surface of the rim base.

23. A method of mounting a tire-information transmitter on the tire/wheel assembly according to any one of claims 2 to 4, comprising;

putting one bead portion of the tire onto a periphery of a rim base of the wheel;

attaching a ring-shaped elastic body on the periphery of the rim base of the wheel via a space formed between the other bead portion of the tire and the wheel, the ring-shaped elastic body having been equipped with a tire-information transmitter beforehand; and

fitting both of the bead portions with the rim of the wheel.

24. A method of mounting a ring-shaped elastic body equipped with a tire-information transmitter on a rim of a wheel by means of an installation device, the wheel comprising a rim having a detachable flange on one side, and a guide portion having an outer surface provided with a guide, comprising;

provisionally putting one bead portion of the tire from a gutter side onto a rim base of the wheel in a state that the detachable flange has been removed while a space remains between the other bead portion and the gutter of the rim;

wrapping a part of said elastic body around the rim base via the space;
 fixing the elastic body with a fixing device;
 attaching a installation device to the gutter;
 setting the elastic body to the installation device;
 displacing the installation device along the gutter while elastically
 stretching the elastic body to mount the entire elastic body on the rim base;
 removing the fixing and installation devices;
 putting the other bead of the tire onto the rim base; and
 attaching the removed detachable flange to the gutter to fabricate a
 tire/wheel assembly.

25. A method of mounting a tire-information transmitter on the tire/wheel assembly according to claim 5, comprising;

disposing a flexible tube equipped with a tire-information transmitter in the tire;

filling a gas in the flexible tube;

assembling the tire and the wheel; and

filling a gas in the tire to provide a given inner pressure.

26. A method of mounting a tire-information transmitter on the tire/wheel assembly according to claim 6, comprising;

provisionally tacking a narrow hanger equipped with a tire-information transmitter to one or both of bead portion(s) of the tire, or suspending the hanger from the bead portion(s);

engaging both of the bead portions with the rim base of the wheel; and

filling a gas in the tire to fit the bead portions with the rim, thereby sandwiching and holding the narrow hanger between the bead portion and the rim.

27. A method of mounting a tire-information transmitter on the tire/wheel assembly according to claim 7, comprising;

provisionally tacking a narrow hanger equipped with a tire-information transmitter to one or both of bead portion(s) of the tire, or suspending the hanger from the bead portion(s);

engaging both of the bead portions with the rim base of the wheel;

fixing the narrow hanger on a bead seat ring; and

engaging the bead seat ring with the rim base.